

CFI Contract

CFI and Fairfax County have a 20-year operating agreement for the E/RRF that will expire in 2011.



As previously mentioned, CFI and the county have a 20-year operating agreement that will expire in 2011. The relationship with the facility past this date has yet to be determined. Negotiations must begin within 5 years of the expiration of the current agreement (i.e., by early 2006).

Ash Disposal

In 1994, a section (100 acres) of Fairfax County's I-95 Sanitary Landfill was re-permitted for waste placement for the construction of a Subtitle D-type liner system. The county designated the site (referred to as the Area 3 Lined Ash Landfill) primarily for ash placement, but it can accept MSW in the event of an emergency shutdown at the E/RRF.



The Area 3 Ash Landfill was designed in four phases, totaling approximately 100 acres. Phase I of the Ash Landfill opened in 1995; its capacity of 26 acres was exhausted in 2001. While the Area 3 Ash Landfill is divided in four main phases, each phase is typically constructed in sub-phases for ease of construction. At the time of this SWMP, ash is currently being disposed of in Phase IIA. This section of the landfill is anticipated to be full in 2004, and Phase IIB is planned for construction in 2004. County staff coordinates construction of new phases to provide an uninterrupted service for disposal.

Ash Disposal Operations

Fairfax County's Area 3 Ash Landfill accepts ash generated at the E/RRF.



The Area 3 Ash Landfill accepts ash generated at the E/RRF, which is hauled to the ash landfill daily. The ash landfill is located very close to the E/RRF, and vehicles from that facility travel on internal roads to access the site. The landfill only handles ash, and it is exempt from daily cover requirements as long as all slopes drain back into the landfill. External slopes are covered with a layer of soil for intermediate purposes, and will receive a synthetic membrane liner cover when ultimate capacity is reached.

Since ash is an inert material, no landfill gas is generated and no gas collection system is present or required.

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A clay/HDPE composite liner underlays the landfill, and another HDPE liner and leak detection system above the bottom liner serve as an extra

means of environmental protection. Leachate collected is conveyed to Fairfax County's Noman M. Cole, Jr. Pollution Control Plant through the sanitary sewer system.

Costs for ash disposal at the landfill are incorporated into the fees per ton for the E/RRF charged by CFI. These costs are recovered in the MSW fees charged for disposal by Fairfax County.

Present and Projected Rate of Use

The Area 3 Ash Landfill accepts an average of 760 tons of ash per day from the E/RRF.

The Area 3 Ash Landfill accepts an average of 760 tons per day of ash generated from the E/RRF. Over the previous 3 years, the ash generation as a percentage of waste feed to the E/RRF has ranged from 25.4 to 26.0 percent (an average of 25.7 percent). The county expects the percentage of ash generation to the E/RRF to remain around this level over the lifetime of the facility. Therefore, the projected annual rate of ash generated by the E/RRF will likely range from 239,000 tons (on the basis of the E/RRF contract minimum) to 281,000 tons (E/RRF full capacity).

Capacity and Availability

Fairfax County expects the Area 3 Ash Landfill to have sufficient capacity to handle ash disposal needs through 2025.

Ash is currently being disposed of in Phase IIA, which has a capacity of approximately 900,000 cubic yards and comprises 12 acres of the site. It is anticipated the Phase IIB of the Area 3 Ash Landfill will be constructed beginning in the spring/summer of 2004 and available to receive ash in late 2004, when the capacity of Phase IIA is exhausted. Phase IIB is estimated to have approximately 3 years of capacity. Together, all phases bring the total ash disposal unit size to approximately 100 acres of the 500 acre I-95 Sanitary Landfill. The county expects the facility to have sufficient capacity to handle estimated ash disposal needs through 2025.

Backup Ash Disposal Options

As discussed previously, Fairfax County expects the landfill to have sufficient capacity to handle estimated ash disposal needs through the SWMP planning period. The county can send ash to sanitary landfills outside of the county if an emergency arises; however, significant additional expense would be borne by transportation of this heavy material and tip fees at other facilities.

Sanitary (MSW) Landfills

Fairfax County currently uses out-of-county sanitary landfills to handle the "overflow" waste from the E/RRF.

Fairfax County currently uses out-of-county sanitary landfills to handle the "overflow" waste from the E/RRF. When MSW quantities in the county exceed the capacity of the E/RRF, the county diverts trucks from the I-66 Transfer Station to out-of-county landfills rather than to the E/RRF.

Currently (2004), the county primarily uses the landfills in Prince William County, King George County (operated by Waste Management), the

National Waste Landfill in Luray, VA, and Shoosmith Brothers in Chester, VA. In some cases, the county disposes of waste at the Atlantic Waste Landfill in Waverly, VA, or the King and Queen County Landfill operated by Allied Waste.

Table 6-14 shows the tonnage of MSW Fairfax County shipped to out-of-county landfills from 2000 to 2002. The primary disposal method used by Fairfax County is the E/RRF; MSW sent to out-of-county landfills has represented only a small percentage (<10 percent) of the total waste managed by Fairfax County.

Table 6-14. Fairfax County MSW Tonnage Sent to Out-of-County Landfills, 2000–2002

Year	Quantity (tons)
2000	49,028
2001	76,791
2002	35,471

Capacity and Availability

Most sanitary landfills that Fairfax County uses have the capacity to handle current out-of-county landfill requirements for the next 20 years.

Most sanitary landfills that Fairfax County uses have the capacity to handle current out-of-county landfill requirements for the next 20 years. Some have quarterly permits that cap the MSW quantity accepted. Therefore, although these landfills may have sufficient capacity, they may not be available to accept MSW from Fairfax County.

Table 6-15 shows the annual tonnage, estimated years remaining, and distance from the I-66 Transfer Station for the largest landfills in Virginia. The shaded portions represent those landfills used by Fairfax County for MSW disposal.

Table 6-16 summarizes the daily tonnage capacity of the largest private landfills in Virginia. The darker shaded portions represent landfills used by Fairfax County for MSW disposal.

Table 6-15. Potential Overflow Capacity Landfills in Virginia

Landfill	City	Owner/operator	Annual tonnage	Remaining capacity	Years remaining	Distance (miles)
King George County Landfill	King George	King George County/Waste Management	1,643,731	18,500,000	11	60
Atlantic Waste Disposal Landfill	Waverly	Waste Management	1,580,034	7,140,200	4.5	150
Brunswick Waste Mgmt. Facility	Lawrenceville	Allied Waste	1,032,056	16,500,000	20	190
King and Queen County Landfill	Little Plymouth	Allied Waste	823,126	25,350,000	31	145
Old Dominion Landfill	Richmond	BFI	814,749	2,866,000	3.5	100
Shoosmith Sanitary Landfill	Chester	Shoosmith Brothers	676,622	7,671,065	11	120
SPSA Reg. Landfill	Suffolk	SPSA	651,375	3,050,000	4.7	190
Charles City Landfill	Charles City	Waste Management	535,339	16,629,323	31	130
Middle Peninsula Landfill	Glenns	Gloucester County/Waste Management	544,086	20,628,881	38	140
Prince William County Landfill	Manassas	Prince William County	506,178	5,800,000	12	20
Maplewood Rec. & Disposal Facility	Amelia Court House	Waste Management	327,693	19,763,689	60	140
Big Bethel Sanitary Landfill	Hampton	City of Hampton/Waste Management	482,861	55,960,000	116	170
National Waste Landfill	Luray	National Waste	242,919	1,885,000	7.8	80

Source: VDEQ, Solid Waste Managed in Virginia During Calendar Year 2002.

Note: SPSA = Southeastern Public Service Authority.

Table 6-16. Daily Capacities of Potential Overflow Capacity Landfills in Virginia (tons per day)

Landfill	Accepted	Capacity	Capacity limits
King George County Landfill	4,000	4,000	Host agreement
Atlantic Waste Disposal Landfill	4,600	10,000	No Limit
Shoosmith Sanitary Landfill	2,500	4,000	No Limit
Brunswick Waste Mgmt. Facility	3,000	3,000	No Limit
Maplewood Rec. & Disposal Facility	1,200	5,000	Host agreement
King and Queen County Landfill	2,000	4,000	Host agreement
Charles City Landfill	3,400	6,000	Host agreement
Middle Peninsula Landfill	2,000	2,000	Host agreement
Old Dominion Landfill	2,000	4,000	No Limit

The City of Falls Church projects annual MSW disposal quantities will increase between 13 and 41 percent from 2004 and 2025, assuming continuation of current waste management practices.

Assessment of Current and Future Disposal Needs

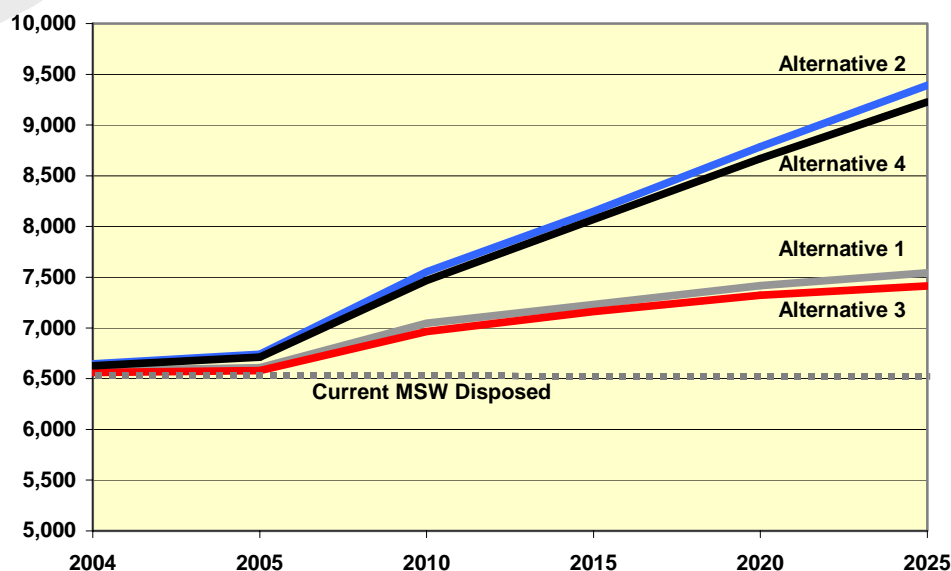
Chapter 2 of this SWMP presents the projected quantities of MSW generated, recycled, and disposed in the City of Falls Church over the SWMP planning period. The City developed four alternative MSW projections to address the probable range of variance in the future generation rates.

Table 6-17 and Figure 6-8 show the MSW disposal projections for the City of Falls Church over the SWMP planning period for the four projection alternatives. **(Note that these projections assume the continuation of the City's current management practices and conditions.)** The City projects annual MSW disposal quantities to increase between 13 and 41 percent from 2004 to 2025.

Table 6-17. MSW Disposal Projections in the City of Falls Church, 2004–2025 (tons)

Year	MSW Disposed			
	Alternative 1	Alternative 2	Alternative 3	Alternative 4
2004	6,581	6,647	6,561	6,626
2005	6,609	6,741	6,580	6,713
2010	7,045	7,553	6,964	7,467
2015	7,232	8,149	7,163	8,071
2020	7,419	8,787	7,322	8,671
2025	7,544	9,390	7,414	9,229

Figure 6-8. MSW Disposal Projections in the City of Falls Church, 2004–2025 (tons)



Currently, the primary facility for the disposal of the City's MSW is Fairfax County's E/RRF. The maximum daily capacity of the E/RRF is 3,000 tons;

a 15,000-ton refuse storage pit spreads the E/RRF maximum capacity to five days. Currently, spikes in daily feed volumes to the E/RRF require that roughly five percent of the annual MSW disposal volume must be instead disposed in out-of-county landfills.

The theoretical maximum annual capacity of the E/RRF is 1,168,000 tons (based on FY 2001 annual tonnage of 1,067,224 tons and boiler availability of 91.36%)⁴. However, in practice, boiler availability of 90 percent is considered indicative of good operations and maintenance practices. Based on an availability of 90 percent, the county estimates the practical capacity of the E/RRF to be 1,095,000 tons per year.

Until 2011, the county is under contract with CFI to supply at least 930,750 tons of MSW per year to the E/RRF. The county has consistently exceeded this requirement, historically operating the E/RRF facility at its maximum practical capacity of roughly 1,095,000 tons of MSW per year. When the volume of MSW generated in Fairfax County is not sufficient to meet the 1,095,000 tons operating requirement, the county accepts other MSW for disposal at the E/RRF.

After implementation of its SWMP, Fairfax County projects MSW disposal rates managed by the county (including the City of Falls Church) to remain below the capacity of the E/RRF over the SWMP planning period.

SWMP Actions

Table 6-18 shows the City's SWMP actions for the disposal of MSW. The City selected SWMP actions based on their alignment with the SWMP goals (in Chapter 4) and their ability to close the gaps between the City's current SWM system and that required in the future. These SWMP actions are discussed in more detail in Chapter 11.

Table 6-18. City of Falls Church MSW Disposal SWMP Actions

MSW Disposal SWMP Actions	
–	Continue using the current disposal system as the preferred alternative
–	Establish agreements with other jurisdictions for alternative disposal

⁴ Dvirka and Bartilucci Consulting Engineers and Solid Waste Services, LLC. *I-95 Energy/Resource Recovery Facility, Annual Operations Monitoring Report, Fiscal Year 2001*. October 2001.